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Tobacco Use in Households with Asthmatics

Alvaro M. Tinajero, MD, MPH, ScM and Jana E. Hesser, PhD

Tobacco smoke (TS) is a direct and contributing cause of disease, and can also exacerbate existing conditions. Tobacco smoke has deleterious effects for both users of tobacco products and those exposed to environmental tobacco smoke (ETS). Asthma is one of several disease conditions caused or exacerbated by TS. ETS exposure is associated with the development of asthma in young children, exacerbates asthma in older children and adults,[1] and is a trigger of severe acute episodes in both.[2] Asthma significantly affects quality of life, and severe acute episodes can lead to hospitalization and death. Because it poses particular risks for asthmatics, eliminating exposure to TS is an important preventive measure for protecting asthmatic adults and children. For this reason, higher TS exposure rates among adult asthmatics and households with asthmatic children would be a major health concern.

This paper examines TS exposure of asthmatic adults and of households with asthmatic children in Rhode Island, and compares these rates to the TS exposure rates of non-asthmatic adults and households with children not affected by asthma.

Methods. Population data on tobacco use and asthma were obtained from the 2000 Rhode Island Behavioral Risk Factor Surveillance System (BRFSS).[3] The BRFSS is a national telephone survey of randomly selected adults (ages 18 and older) who live in households with telephones. It asks respondents questions about a variety of health-related behaviors and conditions, including tobacco use and asthma, and ascertains households with children ages 17 and younger. 50 states and 4 territories perform the BRFSS each year with funding and methodological standards provided by the Centers for Disease Control and Prevention (CDC). A professional survey contractor has conducted the BRFSS in Rhode Island since 1990. During 2000, 3,544 Rhode Island adults were interviewed, about 295 per month.

The prevalence of current smoking was determined for adult asthmatics and non-asthmatics. The prevalence of household tobacco smoke was determined for adult non-smokers with and without asthma, and for households with and without asthmatic children.

Results. Current asthma prevalence was 8.5% in adults. Thirteen percent (13.1%) of households with children under 18 reported one or more children as current asthmatics.

Twenty-five percent (25.2%) of adult asthmatics were current smokers, compared to 23.2% of non-asthmatic adults. About eight percent (7.8%) of asthmatic, non-smoker adults reported another current regular smoker in the household, indicating exposure to household TS, compared with 8.4% of

Table 1. Smoking among Rhode Island adults with and without asthma.

Estimated number of Rhode Island adults who have asthma.	64,420
Percent of Rhode Island adults who have asthma.	8.5%
Percent of asthmatic adults who smoke	25.2%
Percent of non-asthmatic adults who smoke	23.2%

Table 2. Exposure to household tobacco smoke among Rhode Island non-smoker adults with and without asthma.

Estimated number of Rhode Island adults who have asthma and are non-smokers	48,143
Percent of Rhode Island adults who have asthma and are non-smokers	6.3%
Percent of asthmatic adults who are non-smokers who are exposed to household tobacco smoke.	7.8%
Percent of non-asthmatic adults who are non-smokers who are exposed to household tobacco smoke.	8.4%

Table 3. Exposure to household tobacco smoke in Rhode Island households with children under age 18 with and without asthma.

Estimated number of Rhode Island households with one or more children under age 18 with asthma.	35,188
Percent of Rhode Island households with one or more children under age 18 with asthma.	13.1%
Percent of households with asthmatic children with exposure to household tobacco smoke.	35.1%
Percent of households with non-asthmatic children with exposure to household tobacco smoke.	30.4%

non-asthmatic, non-smoker adults. Thirty-five percent (35.1%) of households with one or more asthmatic children had exposure to household TS, compared to 30.4% of child households with no asthmatic children.

Discussion. These results indicate that the rate of tobacco use among asthmatic adults is similar to the rate in the non-asthmatic adult population. The rate of household TS exposure of adult asthmatic non-smokers is similar to that of non-asthmatic non-smokers. The exposure rate to household TS in households with asthmatic children is slightly higher than the rate for households with non-asthmatic children.

The prevalence of smoking or household TS exposure among current asthmatics is disturbing since TS exposure can produce symptoms of asthma. However, the high rates of smoking and household TS exposure among adult asthmatics, and the high rate of household TS exposure in households with asthmatic children indicate that there is no less smoking or exposure to household TS in households when one or more family members have asthma. Tobacco users may be unaware of, ignore, or underestimate the dangers of TS exposure for asthmatics.

These findings indicate the need for effective interventions to reduce smoking by persons with asthma, and with smokers in households of asthmatic adults and children to reduce exposure to ETS. Interventions may include policy actions to reduce smoking in public places, media messages directed to protecting asthmatics from ETS and smoking, and clinical messages reinforcing the importance of eliminating TS exposure for asthmatics by quitting smoking and taking smoking outside.

Definitions:

Adult current asthmatics: Adults reporting a previous diagnosis of asthma and with asthma still present.

Child current asthmatic households: Households with one or more children ages 17 and younger ever diagnosed with asthma and with asthma still present.

Current smokers: Adults ages 18 and older that reported current daily or occasional tobacco use.

Household TS exposure for adults: Adults who were non-smokers but reported that another household member smoked regularly.

Household TS exposure for child(ren): Households with children ages 17 and under where the responding adult was a current smoker, and/or the respondent reported another household member was a regular smoker.

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Alvaro M. Tinajero, MD, MPH, ScM is Epidemiologist in the Division of Family Health, Rhode Island Department of Health, and Clinical Assistant Professor in the Department of Community Health, Brown Medical School.

Jana E. Hesser, PhD, is Director of Population Surveys and Coordinator for the BRFSS in the Office of Health Statistics, Rhode Island Department of Health, and Clinical Teaching Associate in the Department of Community Health, Brown Medical School.

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Rhode Island Department of Health
Office of Health Statistics
3 Capitol Hill
Providence, RI 02908

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